

Title (en)
Optical pickup apparatus

Title (de)
Optisches Abtastgerät

Title (fr)
Dispositif de lecture optique

Publication
EP 1605449 A2 20051214 (EN)

Application
EP 05253509 A 20050608

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KR 20040043125 A 20040611

Abstract (en)
Disclosed is an optical pickup apparatus. Particularly, a photo detector for use in the optical pickup apparatus detects a beam reflected from the disc, and includes a substrate (10,30) for transmitting three beams (one main beam and two sub beams) reflected from the optical disc; a liquid crystal (15,35,36) for refracting the two sub beams, that are transmitted through the substrate, at different refractive Indexes according to the wavelength of a laser beam outputted from the laser diode; an electrode material (17,37) for supplying power to the liquid crystal; a switch (25,45) for adjusting the magnitude of an applied voltage to the electrode material; and a photodiode on which the main beam and the refracted sub beams while transmitting the substrate and the liquid crystal are projected, and transformed into electric signals. The photo detector enables to change the light-receiving magnification by installing the substrate and the crystal layer(s) in front of the photodiode (20), and adjusting the magnitude of an applied voltage to the liquid crystal. By refracting the beams refracted from the disc at a proper refractive Index, the ± 1 st -order beams can be projected onto the same position, irrespective of the wavelengths. As such, the optical pickup apparatus of the present invention is capable of recording and/or reproducing information onto and/or from discs having diverse specifications.

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